REMARKS

This amendment is responsive to the Office Action mailed March 18, 2008. Reconsideration and allowance of claims 3-18 are requested.

Status of the Claims

The Office Action mailed March 18, 2008 reports examination of claims 1-18.

Claims 1, 2, 4-11, 13, 14, and 18 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Zhu et al., U.S. Pat. No. 7,009,396 (hereinafter "Zhu").

Claims 3, 12, and 15-17 are indicated as containing allowable subject matter.

The claims present patentable subject matter and should be allowed

Claim 3 has been placed into independent form including all limitations of canceled base claim 1. Dependent claim 2 is canceled, while dependent claims 4 and 5 have been placed off of claim 3. As claim 3 is indicated as containing allowable subject matter, Applicants respectfully request allowance of claims 3-5.

Claim 15 has been placed into independent form including all limitations of base claims 6-8. As claims 15-17 are indicated as containing allowable subject matter, Applicants respectfully request allowance of claims 15-17.

Claim 6 recites a method of magnetic resonance imaging comprising: acquiring data with a plurality of global receive coils which are fixed with respect to a field of view through which a subject can move continuously such that magnetic resonance signals can be acquired over a virtual field of view defined by an elongated region of the subject which is moved through the fixed field of view during the continuous motion and data acquisition; generating sensitivity patterns corresponding to the fixed field of view for the global receive coils; and mapping the sensitivity patterns from the fixed field of view to the virtual field of view.

In rejecting claim 6, the Office Action claims to find the recited sensitivity pattern generating and mapping operations in Figs. 1-3, cols. 3-5 and the summary.

Respectfully, these cited sections do not relate to generating, utilizing, or otherwise employing sensitivity patterns. These cited sections relate to embodiments that employ the singular RF coil **152**, which is a whole body coil, for acquiring magnetic resonance signals. *See, e.g.*, col. 4 lines 32-43. Indeed, the cited sections of Zhu (i.e., Summary & cols. 3-5) do not mention either sensitivity patterns or SENSE.

Zhu *does* disclose embodiments employing SENSE in combination with moving table acquisition, but these embodiments are disclosed with reference to Zhu Fig. 4. *See* Zhu col. 4 lines 43-46. Zhu discloses embodiments in which coil array elements (300) are placed on a fixture (310) that wraps around the subject (200) but remains stationary with respect to the scanner, as shown in Fig. 4. Zhu col. 8 lines 4-7. Such a coil array is suitably used for SENSE. Zhu col. 8 lines 39-42.

Zhu further recognizes the following problem:

> Applying SENSE or other parallel imaging reconstruction on the regional images that are produced in parallel generates a regional image free of aliasing. The process is repeated to produce a series of regional images of the volume of interest along the translation direction, which can be combined into a full-FOV image. In the presence of B1 field inhomogeneity however, the followed set of spins is "seen" by each coil with a different sensitivity weighting at different table locations, especially for embodiments that employ a stationary coil array 153 to receive signals during table translation. This leads to undesirable view-to-view changes that may cause significant ghosting artifacts.
>
> Zhu col. 8 lines 39-51 (underscore added).

However, Zhu proposes two possible solutions, both of which are *different* from the solution recited in claim 6 of the present application:

> Two strategies may be applied to alleviate/eliminate this problem. First, one may design the coil array elements 300 to assume shapes that extend the full travel range of the selected spins, which is determined by the bandwidth of the signal filtration during each view acquisition, table translation speed, and pulse sequence timing. This reduces B1 field variation along the translation direction and hence lessens view-to-view changes. Second, one may, in the reconstruction, take into account both the B1 field maps and the table locations and correct for the view-to-view changes algebraically.
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> Zhu col. 8 lines 51-61 (underscores added).

The first solution entails using coil array elements that are elongated along the direction of travel so as to reduce the perceived B1 field variation. The second approach employs a view-to-view correction of the sensitivity map.

Claim 6 recites a solution that is *different in kind* from Zhu's two strategies: generate sensitivity patterns corresponding to the fixed field of view for the global receive coils, and map the sensitivity patterns from the fixed field of view to the virtual field of view. Using the approach recited in claim 6, the virtual field of view can be reconstructed using the sensitivity patterns *mapped to the virtual field of view*, so that the reconstruction processing is not complicated by performing a view-to-view correction of the sensitivity map as taught by Zhu.

In view of the foregoing, it is respectfully submitted that claim 6 presents patentable subject matter. Accordingly, Applicants respectfully request allowance of claims 6-14 and 18.

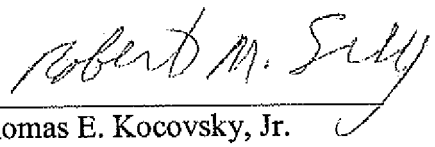
CONCLUSION

For the reasons set forth above, it is submitted that claims 3-18 (all claims) distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event that personal contact is deemed advantageous to the disposition of this case, the Examiner is requested to telephone the undersigned at (216) 861-5582.

Respectfully submitted,

Fay Sharpe LLP



Thomas E. Kocovsky, Jr.
Reg. No. 28,383
Robert M. Sieg
Reg. No. 54,446
1100 Superior Avenue
Seventh Floor
Cleveland, OH 44114-2579
(216) 861-5582